

What is claimed is:

1. An electric device, comprising:

5 a battery unit constituted by pairing a storage battery pack with a memory for storing at least information about charge and discharge states of the storage battery pack, and provided with a plurality of terminals for electrically connecting said storage battery pack and said memory to an outside respectively.

2. An electric device, comprising:

10 a battery unit constituted by integrating a storage battery pack, a memory for storing at least information about charge and discharge states of the storage battery pack, and a charger for charging said storage battery pack, and provided with a plurality of terminals for electrically connecting said storage battery pack, said memory, and said charger to an outside
15 respectively.

3. An electric device, comprising:

a battery unit constituted by pairing a storage battery pack with a memory for storing at least information about charge and discharge states of the storage battery pack, and provided with a switch connected to said storage
20 battery pack in series and a plurality of terminals for connecting said storage battery pack, said memory, and a control terminal of said switch to an outside respectively.

4. An electric device, comprising:

25 a plurality of battery units detachably mounted thereon, each battery unit constituted by pairing a storage battery pack with a memory for storing at least information about charge and discharge states of the storage battery pack;

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connectors provided on said each battery unit and a battery unit installation section on a device main body side, for performing electrical connection/disconnection to/from the device main body side incident to attachment/detachment of said battery unit; and

5 a driver for driving a load, a charger for charging said storage battery pack by referring to the information stored in said memory of said each mounted battery unit, and a controller for controlling supply of electric power from said each battery unit to said driver by referring to the information stored in said memory of said each mounted battery unit, which are provided
10 on said device main body side.

5. An electric device, comprising:

a plurality of battery units detachably mounted thereon, each battery unit provided with a storage battery pack, a memory for storing at least information about charge and discharge states of the storage battery pack, and
15 a charger for charging said storage battery pack;

connectors provided on said each battery unit and a battery unit installation section on a device main body side, for performing electrical connection/disconnection to/from the device main body side incident to attachment/detachment of said battery unit; and

20 a driver for driving a load and a controller for controlling supply of electric power from said each battery unit to said driver by referring to the information stored in said memory of said each mounted battery unit, which are provided on said device main body side,

wherein said charger of said each battery unit has means for deciding
25 a charge order by mutually referring to the information stored in said memory of said each mounted battery unit.

6. An electric device, comprising:

a plurality of battery units detachably mounted thereon, each battery unit provided with a storage battery pack, a memory for storing at least information about charge and discharge states of the storage battery pack, and a switch connected to said storage battery pack in series;

5 connectors provided on said each battery unit and a battery unit installation section on a device main body side, for performing electrical connection/disconnection to/from the device main body side incident to attachment/detachment of said battery unit; and

10 a driver for driving a load, a charger for charging said storage battery pack through said switch by referring to the information stored in said memory of said each mounted battery unit, and a controller for controlling supply of electric power from said storage battery pack to said driver through said switch of said battery unit by referring to the information stored in said memory of said each mounted battery unit, which are provided on said device
15 main body side.

7. An electric device according to claim 4, wherein
said charger is constituted to be a unit attachable/detachable to/from said electric device main body.

8. An electric device according to claim 6, wherein
20 said charger is constituted to be a unit attachable/detachable to/from said electric device main body.

9. An electric device according to any one of claim 4 to claim 8,
wherein

25 said charger includes means for reading at least the information about charge and discharge states of said storage battery pack stored in said memory of said each battery unit, and means for writing into said memory the information about charge and discharge states of said storage battery pack in

the same unit.

10. An electric device according to any one of claim 4 to claim 8,

wherein

said controller has means for reading the information stored in said
5 memory of said each battery unit to control action of the whole device.

11. An electric device according to any one of claim 4 to claim 8,

wherein

said memory of said each battery unit also stores information about
characteristics of said storage battery pack, and said charger has means for
10 controlling charge of said storage battery pack, by referring to the information
about the characteristics of said storage battery pack stored in said memory of
said each battery unit, in accordance with the characteristics.

12. An electric device according to any one of claim 4 to claim 8,

wherein

15 said memory of said each battery unit also stores information about
characteristics of said storage battery pack, and said controller has means for
controlling discharge from said storage battery pack, by referring to the
information about the characteristics of said storage battery pack stored in
said memory of said each battery unit, in accordance with the characteristics.

20 13. An electric device according to any one of claim 4 to claim 8,

wherein

said controller has means for displaying a remaining capacity of said
storage battery pack of said each battery unit based on the information stored
in said each battery unit, and displaying a charge request and/or giving an
25 alarm when a storage battery pack needing to be charged exists.

14. A charging apparatus, comprising:

battery unit installation sections in which a plurality of battery units

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are detachably installable, each battery unit constituted by pairing a storage battery pack with a memory for storing at least information about charge and discharge states of the storage battery pack and provided with a plurality of terminals for electrically connecting said storage battery packs and said memory to an outside respectively, and which has fixed terminals electrically connected to said plurality of terminals respectively by an installation of said battery unit; and

a charger for charging said storage battery pack by referring to the information stored in said memory, through said each terminal, for said each battery unit installed in said battery unit installation section.

15. A charging apparatus, comprising:

battery unit installation sections in which a plurality of battery units are detachably installable, each battery unit constituted by pairing a storage battery pack with a memory for storing at least information about charge and discharge states of the storage battery pack and provided with a switch connected to said storage battery pack in series and a plurality of terminals for connecting said storage battery pack, said memory, and a control terminal of said switch to an outside respectively, and which has fixed terminals electrically connected to said plurality of terminals respectively by the installation of said battery unit; and

a charger for charging said storage battery pack through said each terminal and said switch by referring to the information stored in said memory through said each terminal, for said each battery unit installed in said battery unit installation section.

25 16. A method for charging and discharging said battery unit in the electric device according to any one of claim 4 to claim 8, comprising the steps of:

discharging in order the storage battery packs of said respective mounted battery units to a predetermined remaining capacity, and then charging them, by referring to the information stored in said memories.

5 17. A method for charging and discharging said battery unit in the electric device according to any one of claim 4 to claim 8, comprising the steps of:

10 discharging the storage battery packs of said respective mounted battery units in decreasing order of remaining capacity, and charging them in increasing order of remaining capacity, by referring to the information stored in said memories.

18. A method for charging and discharging said battery unit in the electric device according to any one of claim 4 to claim 8, comprising the steps of:

15 discharging the storage battery packs of said mounted battery units in increasing order of remaining capacity, and charging them when the remaining capacities become a predetermined value or less, by referring to the information stored in said memories.

20 19. A method for charging and discharging said battery unit in the electric device according to any one of claim 4 to claim 8, comprising the steps of:

selecting one or more of said battery units and discharging each of storage battery packs thereof, and selecting remaining one or more battery units, and charging each of storage battery packs thereof, by referring to the information stored in said memories of said mounted battery units.

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